REMARKS/ARGUMENTS

The subsea pipeline commissioning method and apparatus of the present invention accomplishes subsea pipeline cleaning, dewatering or hydrostatic testing that is completely subsea using a submersible vehicle (SV) that carries and operates at least one pump on a fill and test skid that is dimensioned and powered to be able raise the internal pressure of a pipeline sufficiently for hydrostatic testing. The prior art of record provides no teaching of such an apparatus and thus no teaching of a method of its use. The present claims have been amended to clarify this novel and unique contribution to subsea pipeline service with its concomitant elimination of the need of a surface vessel having pumps on board the vessel to provide pumping capacity of a magnitude sufficient to conduct hydrostatic testing if desired.

I. Status of the Claims and Support for Amendments:

Claims 1-7, and 9 have been amended. The new claims do not introduce new matter. Support for the new claims can be found throughout the specification and drawings as originally found.

II. Rejection of claims 1, 2 and 4-9 under 35 U.S.C. § 103(a)

a. Combining Graves and Bliss

To the extent that the amendments do not resolve the rejections over Graves combined with Bliss, the rejection is respectfully traversed for the following reasons. The Examiner has acknowledged that Graves Deepwater "does not expressly teach pumping and maintaining pressure to assure no leaks as in hydrostatic testing of the present invention." In fact, Graves does not even implicitly teach use of a subsea high-pressure pump. Indeed, the only high pressure pump disclosed in Graves is a surface vessel mounted pump that may optionally provide power to the boost pump (pg. 160, ln. 9). This Graves reference provides a method of performing a discrete and limited stage of pipeline commissioning: that of flooding the pipe and performing pigging, primarily using the force of seawater flooding the pipe after or as it is lowered into the water. Given that the hydrostatic head pressure will eventually equalize, a boost pump is provided for pushing the pig any terminal distance of its travel through the pipe that is not otherwise accomplished by flooding.

As clearly set out in Graves, the provided method produces a flooded pipeline that is "ready to test" but is clearly not yet tested according to the Graves disclosure. *See Graves* page 160. In

Graves Deepwater, as well as Graves US Patent 5,927,901, hydrostatic testing is mentioned consistently as the **next operation to be performed**. However, there is absolutely no disclosure in any of the Graves references that water can be pumped into the pipeline with the structure disclosed by Graves to a pressure sufficient for hydrostatic testing. In fact, Graves simply could not have performed a step of hydrostatic testing because no subsea pump capable of delivering the required pressure for high-pressure hydrostatic testing is taught or suggested by Graves.

That the cited Graves references do not even contemplate a subsea high pressure pump is manifest by Graves later filing of a GB patent application in April 2001 (later reflected in WO02/084160, which is of record) in which a new invention is provided in which a pump capable of hydrostatic pressure testing is provided on a subsea skid. As reflects the understanding of one in skill in the art, Graves WO02/084160 at page 19, reproduced below, explicitly distinguishes between the boost pump of Grave prior invention with the added high pressure pump of the later improvement.

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small percentage (in the order of 4%) of the volume of water required to fill the pipeline 200 in the first instance, and highlights the difference in required capacity between a relatively low-pressure, high flow-rate flooding pump (e.g. boost pump 40) and a high-pressure, low-flow pressure testing pump (e.g. pump 50).

Indeed, the above statement clearly disproves the Examiner's contention that a "because the pump is capable of creating a pressure differential great enough to move the pigging device, then it is capable of creating a pressure differential for hydrostatic testing." Neither Graves nor Bliss disclose all of the structural necessities for carrying out the method because neither teach or suggest a subsea high pressure pump, defined by the invention as a pump capable of delivering a hydrostatic pressure testing pressure.

The deficiency of Graves is in no way remedied by Bliss which explicitly states that "the flood pumping and pressure testing equipment is connected to the pig launcher on the [topside] production facility." This is clearly depicted in Figure 7 and in fact illuminates the clear distinction with the claimed invention. The Examiner has stated that Bliss teaches that "it is conventional to combine pressure testing with pigging and flooding because . . . government regulation requires pressure testing." The Applicant agrees that flooding pigging and pressure testing are all required stages of pipeline commissioning. In fact, this reality is disclosed in Applicant's own disclosure. However, it is respectfully argued that this in no way makes obvious a method of pressure testing using a subsea high pressure pump. Bliss merely provides a valve assembly that is able to vent during flooding and then seal when the pig is received and pressure testing is commenced. In Bliss, the motive force for both flooding and pressure testing is conventionally provided from the topside production platform.

In order, to establish a *prima facie* case of obviousness, the prior art reference (or references combined) must teach or suggest all the claim limitations. MPEP §2143.03. Graves and Bliss simply cannot be combined to provide high-pressure hydrostatic testing using a subsea high-pressure pump when neither Graves nor Bliss teach or suggest such a method and neither provide an apparatus capable of performing such a method.

b. Combining Graves, Bliss and Corbetta

Corbetta is asserted to provide a teaching of an ROV carrying a "seal ring test system for pressure testing a newly assembled section of a conduit" thus rendering obvious claim 3, wherein the test and fill package of claim1 is carried by said SV. To the extent that the amendments do not resolve the rejections over Graves combined with Bliss and Corbetta, the rejection is respectfully traversed for the following reasons. Corbetta teaches a ROV able to operate a number of tools including a "seal ring replacement tool." Referring to Col. 13, ln 66 et seq., it appears that the ROV is able to assist in testing the integrity of conduit connection seals in the microenvironment of a joint using pressurized air (air hot stab). Corbetta provides no teaching or suggestion of an ROV carrying or powering high pressure test pumps, much less those capable of high pressure hydrostatic testing of a pipeline. Even assuming, arguendo, that Corbetta teaches a "pressurizing

system", this is does not in any way teach or suggest the claimed "high-pressure hydrostatic testing."

In order, to establish a *prima facie* case of obviousness, the prior art reference (or references combined) must teach or suggest all the claim limitations. MPEP §2143.03. Graves, Bliss and Corbetta simply cannot be combined to provide high-pressure hydrostatic testing using a subsea high-pressure pump when none of Graves, Bliss or Corbetta teach or suggest such a method and none provide an apparatus capable of performing such a method.

CONCLUSION

For the reasons stated herein, the Applicant respectfully submits that independent claims 1, 4, and 6 - 9 are allowable and that the dependent claims are, in turn, also allowable. The Commissioner is authorized to charge any additional fees incurred in this application or credit any overpayment to Deposit Account No. 50-1922. Should the Examiner have any questions, please do not hesitate to call Applicant's attorney at 832-446-2421.

Respectfully submitted,

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